



State and Private Forestry Fact Sheet Hawaii 2021



Investment in State's Cooperative Programs

Program	FY 2020 Final
Community Forestry and Open Space	\$0
Cooperative Lands - Forest Health Management	\$499,961
Forest Legacy	\$1,607,400
Forest Stewardship	\$144,000
Landscape Scale Restoration	\$300,000
State Fire Assistance	\$807,580
Urban and Community Forestry	\$472,460
Volunteer Fire Assistance	\$50,000
Total	\$3,881,401

NOTE: This funding is for all entities within the state, not just the State Forester's office.

The mission of the Division of Forestry and Wildlife (DOFAW) of the Hawaii Department of Land and Natural Resources (DLNR) is to responsibly manage and protect watersheds, native ecosystems, and cultural resources and provide outdoor recreation and sustainable forest products opportunities, while facilitating partnerships, community involvement, and education. Cooperative forestry programs, administered and implemented through a partnership between the State of Hawaii, U.S. Forest Service, and many other private and government entities help to fulfill DOFAW's mission. DOFAW and its partners work to protect and restore forests to enhance watershed functions, provide habitat for threatened and endangered species, mitigate wildfire threats, and support many other benefits for current and future generations. Additionally, Hawaii's Forest Action Plan (FAP) provides nine priority issues, including: 1) Water Quality and Quantity; 2) Forest Health: Invasive Species, Insects, and Disease; 3) Wildfire; 4) Urban and Community Forestry; 5) Climate Change and Sea Level Rise; 6) Conservation of Native Biodiversity; 7) Hunting, Nature Based Recreation and Tourism; 8) Forest Products and Carbon Sequestration; and 9) U.S. Tropical Island State and Territorial Issues. Consistent with Hawaii's FAP, reversing the trend of natural resource loss by increasing watershed protection, invasive species prevention and control, and restoration of native species has been identified as a target to be achieved by 2030 in the Aloha+ Challenge, a statewide commitment crossing jurisdictions, agencies, sectors, and communities to sustain resources. DOFAW, which manages a quarter of the land in Hawaii, continues to work with partners to enhance the resilience of the State's wildland and urban forests so they are capable of providing the public benefits and ecosystem services upon which our islands depend. Ultimately, forests play a large role in the health of Hawaii's economy, residents, and visitors.

Program Goals

- Protect and maintain forested watersheds for water recharge and other ecosystem services.
- Promote sustainable forest management to generate a variety of forest products and jobs.
- Preserve, enhance, and restore habitat necessary to sustain native species and ecosystems.
- Maintain public trails and access roads used for fishing, hiking, camping, and hunting.
- Enhance awareness of threats posed by invasive species and continue to collaborate with partners throughout the State and the Pacific islands region to prevent the spread of invasive species.
- Improve the health and viability of urban forests through educational programs, technical and financial assistance, and public/private partnerships.
- Train teachers in environmental education, offer youth internships, provide volunteer opportunities, and support green jobs.
- Purchase land and develop conservation easements to preserve and restore forested areas that are threatened by development or fragmentation.
- Provide technical and financial assistance to landowners and long-term leaseholders of privately

managed forests.

- Reduce the negative impacts of wildfires on native ecosystems, forests, and watersheds as well as communities and the threatened rare habitats near them.

Key Issues

- Respond to the detection of new fungus killing on of Hawaii's most important forest tree species, ohia, which makes up 50% of all of the forests in Hawaii. The disease, locally referred to Rapid Ohia Death, has affected an estimated 135,000 acres and threatens forest statewide. DOFAW is coordinating with other state, federal, and county agencies to effectively respond to this new disease threat
- The sustainable yield of freshwater depends on the protection of forested watersheds throughout the State and continues to be a priority for forestry. The State of Hawaii has committed to protection of 30% of highest priority watersheds by 2030.
- Preventing and responding to new invasive species that threaten forests in Hawaii, while effectively managing widely established pest species through Integrated Pest Management.
- Fire-tolerant invasive grasses, periods of drought, and land use and population growth trends continue to be a concern for the Fire Management Program. Hawaii is on par with the western states for percentage of land area burned. Enhancing DOFAW's capacity to restore and maintain landscapes, support fire adapted communities, and respond to wildfires will depend largely on its ability to secure funds and strengthen collaborative partnerships across areas of expertise and jurisdictional boundaries.
- Climate change poses current and long-term threats to Hawaii's forests, as well as new opportunities to support large-scale reforestation for carbon sequestration. Threats include: (1) Regional Climate Assessments predict warmer and drier conditions will contribute to declining freshwater supplies and increase the risk of extinctions. (2) Nearly a third of the nation's listed species are found in Hawaii with habitat limited by temperature gradients; as areas warm species habitats may be lost.

Forest Facts and Accomplishments

Selected Facts	Value	FY 2020 Accomplishments	Value
Population	1,360,301	Landowners Receiving Educational or Technical Assistance	36
Acres of Forest Land	1,471,181	Acres Covered by New or Revised Forest Stewardship Plans	20
Acres of Nonindustrial Private Forest Land	1,155,000	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	17
Number of NIPF Landowners	25,000	Volunteer Fire Departments Assisted	30
Acres of Federal Land Under State Fire Protection	0	State Fire Communities Assisted	55
Acres of Private Land Under State Fire Protection	2,300,000	Coop Forest Health Acres Protected	250
Number of Rural Fire Departments	4	Forest Legacy Project Acquisitions	3,434
Cities and Towns	5	Communities Provided Urban Forestry Program Assistance	123
Forest Based Employment	926	Population Living in Communities Provided Urban Forestry Program Assistance	1,257,773
Economic Impact of Forestry (by rank)	19	Urban Forestry Volunteer Assistance	5,545
State Forestry Budget (All Sources)	53,865,282		

Program Highlights

Conservation Education

Hawaii Project Learning Tree, like many other education programs, strove to ensure equitable access to content and proactive, safe communication during the COVID-19 pandemic. This included moving all workshops to an on-line hybrid format, which included place and culture based connections coupled with the PLT e-unit. The program coordinated 5 workshops and hosted 4. Planned workshops included 1

Pre-service and 4 public. The pre-services workshops are much more intensive both in terms of preparation and execution, but the relationship between participants and content is clearly stronger. Coordinators have proposed enhancing pre-service programming in 2021.

Cooperative Fire Protection

The 2020 fire season in Hawaii saw lower than normal wildland fire incidence. The Division developed COVID 19 protocols for fire response and saw zero cases or transmissions associated with our fire responses.

On the island of Oahu, DOFAW and its partners kicked off efforts to develop a new Community Wildfire Protection Plan for its North Shore community. Also on Oahu, DOFAW and its partners established planted fuel breaks in the Waianae Kai Forest Reserve in areas that are at high risk for fire.

On Kauai, 11 miles of fuel break were maintained in high-risk areas of the island.

On Maui, as part of a USDA Joint Chiefs' project, a network of fuel breaks was established and maintained protecting a high fire risk area on that island. The breaks slowed or stopped multiple fires in the area over the past year demonstrating the importance of fuels reduction projects on the island.

Economic Action

Koa (Acacia koa) forests once covered large areas of Hawaii but have been greatly reduced over the past two centuries, primarily due to conversion for other agricultural activities. A number of agricultural enterprises have phased out of their large scale activities leaving behind fallow or underutilized lands. Koa has been envisioned to be an alternative land use option that could provide landowners with an economic return as well as support the ecological benefits of restoring a healthy native forest. Now, thanks to the decades of work on disease resistant and refinement of silvicultural practices, koa is a viable land use option especially as the State looks to encourage diversification of Hawaii's agricultural systems and economy.

Although koa is one of the most valuable hardwoods in the world, land managers are reluctant to invest in large scale koa planting without examples or economic/financial models to rely on. Forest economic models have been developed for other hardwood species that provide the information and address uncertainties needed for land managers to make a decision on investing in planting. Partners, including DOFAW, University of Hawaii, USDA Forest Service, and private for-profit and non-profit entries, have identified the development of such a model as a important tool to justify the investment in large scale tree plantings. The team will work with a forest economist to (1) develop a draft forest economic model for koa; (2) identify, find, and provide information needed to improve the model, and (3) develop a "how to use" manual for land managers and decision makers to be able to use the model to support their land management decisions.

Forest Health Protection

Rapid Ohia Death (ROD) continues to be a high priority for the forest health program in Hawaii. The disease is caused by two recently described fungi in the *Ceratocystis* genus and threatens Hawaii's most important native tree species, *Metrosideros polymorpha*. Project priorities in 2020 were survey and response, diagnostics, research, and public outreach. Research efforts include determining how the pathogen spreads, the role of ambrosia beetles and feral ungulates, genetic fingerprinting to track disease spread, efficacy of treatments (e.g., felling and tarping), and developing disease resistance.

The Division continues to work with biological control practitioners in the state to promote release of safe biological control for Hawaii's most damaging invasive species such as miconia, Christmas berry, cane tibouchina, and the erythrina gall wasp. These projects are currently undergoing environmental review and releases are expected in 2021. Biological control is the most cost-effective management solution to many of Hawaii's worst forest threats. In addition, initial planning efforts and strategy are underway to create new Pacific Regional Biocontrol Center in Hawaii with state-of-the-art facilities and staffing in order to meet the increasing demand for effective biological control.

In 2020 a milestone was passed when Governor Ige signed Hawaii Department of Agriculture's rule restricting domestic import of any Myrtaceae plant material into the state to protect *Metrosideros* spp. from *Austropuccinia* strains not present in the state and other pests. The state continues to work with

USDA Animal and Plant Health Services to establish parallel restrictions for international imports.

Other notable issues include the *Scolypopa australis* (a new passionvine hopper detected in 2020), Queensland longhorned beetle, *Myoporum* thrips, augmenting biocontrol for strawberry guava, and *Austropuccinia psidii* outbreaks.

Forest Legacy

The purpose of the Hawaii Forest Legacy Program is to identify environmentally important forestlands and to protect them from conversion to non-forest uses. In doing so, the program facilitates the conservation and preservation of forest product resources, watersheds, wildlife, scenic enjoyment, recreation, cultural and native species resources, and other ecologically important values. DOFAW supports acquisition through the program for conservation purposes and/or sustainable management of forests with the support of land trust/non-profit partners. Specific Forest Legacy projects in Hawaii include assisting the Office of Hawaiian Affairs with the Wao Kele O Puna Forest Reserve (Hawaii Island); holding conservation easements at Kealahou Heritage Ranch and Kaawaloa Forest (Hawaii Island); providing monitoring support for U.S. Forest Service conservation easement projects in South Kona (Hawaii Island); and developing community-based, multi-resource management plans for the recently acquired Helemano Wilderness Area (Oahu – 2,882 acres fee title) and Kamehamehame Forest (Maui – 3,434 acres fee title). Due diligence for other pending program acquisitions is underway including Hoomau Ranch (Hawaii Island - 993 acres conservation easement) and Haloa Aina (Hawaii Island -2800 acres conservation easement).

Forest Stewardship

The Forest Stewardship Program (FSP) enables private landowners or long-term leaseholders to restore, conserve, and responsibly manage important forest resources that provide vital public and private socioeconomic and environmental benefits. The majority of Hawaii's forests, 66% or 1,155,000 acres of Hawaii's 1,748,000 acres of forestland, is privately owned or managed. By establishing and maintaining the FSP, the State recognizes that public-private partnerships are essential to the present and future health of Hawaii's forests and to the public benefits that they provide. Since the program began in 1990, approximately 65 private landowners have enrolled in the FSP and are conducting forest management activities on over 35,000 acres under agreements spanning 10 or more years. The program provides cost-share assistance for the development of FSP management plans and FSP management plan implementation over the 10-year period, but some landowners commit to maintaining their projects for up to 20 additional years. In Hawaii, the FSP has leveraged over \$13 million in state and private funding to support provided by U.S. Forest Service through the Cooperative Forestry Act over the last thirty years. The Division, through its landowner assistance network, reached over 36 landowners and community groups in the past year, providing them with technical guidance on responsible stewardship of their forest resources. Most participants in the FSP would not have been able to pursue their sustainable and often innovative land-use objectives without the technical and financial assistance made available through this program. With recent cross-sector initiatives, such as the commitment to freshwater security, watershed protection, carbon neutrality, biosecurity, invasive species control, and native species restoration, the program continues to remain relevant through sustainable forest management actions and partnerships.

Shared Stewardship Agreement for Hawaii's Forests and Watersheds

The Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife signed a Shared Stewardship Agreement with the USDA Forest Service and Natural Resources Conservation Service in early 2020. The agreement acknowledges the mutual goals to maintain and restore healthy, sustainable forests and watersheds that continue to provide benefits to people now and into the future.

The three focal areas of the agreement are: 1) Biosecurity and Protection of Hawaii's Watersheds from invasive species such as Rapid Ohia Death, hooved animals, and strawberry guava; 2) Forests Sustaining Hawaii with valuable ecosystems services and forest products which sustain livelihoods in the islands; and 3) Connecting People to Forests through recreation and forest trails, urban forest canopies, community stewardship of forest areas, or environmental education activities.

The agreement will help DLNR and USDA focus our resources and actions, as well as communicate to decision makers, the public, and other partners our shared priorities for forest management in Hawaii.

Urban and Community Forestry

Hawaii's Urban and Community Forestry program, Kaulunani (Hawaiian for 'the beautiful growth'), is bringing a renewed focus to the important relationship between public health and the forests all around us. The health benefits of nature and our own well being go hand in hand, and Kaulunani is continuing to work with partners, such as the Hawai'i Department of Health, community-based non-profits, and the private sector to increase the tree canopy where we live, work, and play.

As we adapted to a new way of life amid a global pandemic in 2020, the importance of trees and green spaces for our well being became abundantly clear. Despite the challenges, Kaulunani supported the successful distribution of over 5000 trees across three Islands in celebration of Arbor Day 2020. Three grantees and their partners reimagined the traditional tree giveaway events and festivals by establishing new partnerships, a library of digital resources, and engaging over 200 volunteers (1500+ hours) in a safe and physically distanced manner. Overall, the Community Grants Program awarded a total of \$138,500 to 11 community partners in this period. These diverse projects address Forest Action Plan priorities, with a common thread of Education & Public Outreach and Health & Well being linking them together. An exemplary project distributed food and medicine trees to Native Hawaii communities on Kaua'i and Moloka'i to promote sustainability, health, and food sovereignty.

As physical distancing became the norm, our community and volunteer engaged approach adapted to using more digital communication and virtual interfaces. An expanded social media strategy was implemented and the website updated with new digital resources such as the Kaulunani Grantee StoryMap, providing a visual celebration of the impact of the Community Grants program to date. We continue to grow beautifully through the challenges to support our communities.

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